

Application No.: 10/532,009
Applicants: David Lawrence et al.
Filed: November 16, 2005

REMARKS

Claims 1-2, 4-8, 11, 144-145 and 150 were pending in the subject application. By this amendment, Claims 2 and 6 have been canceled without prejudice or disclaimer, and Claims 1, 4-5 and 7 have been amended. Applicants maintain that the amendments to the claims do not raise an issue of new matter. Support for the amendments to Claim 1 can be found at least in Claims 2 and 6 and in the application on page 20, line 20. Support for the remaining claim amendments can be found at least in the previous version of the claims.

The specification has been amended to clarify the Statement of Government Support. The amendment to the specification does not raise an issue of new matter.

Entry of the amendments is respectfully requested.

Rejection under 35 U.S.C. §112, Second Paragraph

Claim 5, which depends from Claim 1, is rejected for reciting non-steroid compounds, while Claim 1 specifies that the ligand is a steroid (now a ecdysteroid). Claim 5 has herein above been amended to remove non-steroids. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejections under 35 U.S.C. 102/103

Claims 1, 4, 6-7, 11 and 144-145 are rejected under 35 U.S.C. §102(e) as anticipated by Kao et al. (U.S. Patent No. 6,803,479) ("Kao").

Claims 1-2, 4-8, 11, 144-145 and 150 are rejected under 35 U.S.C. §103(a) as unpatentable over Kao et al. (U.S. Patent No. 6,803,479) ("Kao").

Applicants respectfully traverse these rejections.

Claim 1 has been amended to recite: "A compound comprising a ecdysteroid ligand that specifically reacts with an ecdysone receptor and a molecular cage covalently bound to the ecdysteroid ligand that prevents reaction of the ecdysteroid ligand with the ecdysone receptor, wherein the ecdysteroid ligand is released from the cage and capable

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of reacting with the ecdysone receptor upon exposure of the compound to light and wherein the molecular cage comprises a nitromethoxybenzyl moiety.”

Kao teaches non-steroidal ecdysone (NSE) caged compounds of the bisacylhydrazine family (e.g., bottom of Columns 2 and 8). Kao does not teach any caged steroid. The closest Kao comes in this regard in the statement on the bottom of Column 5 (lines 63-65) that “Potentially the caging approach could be applied to yield caged tetracyclines and caged antiprogestins...” It is noted that neither tetracyclines nor antiprogestins (e.g., mifepristone) are a ecdysteroid as required in Claim 1.

Even though Kao acknowledges the theoretical potential of applying the caging approach to tetracyclines and antiprogestins, Kao goes on to reject the idea of caging steroids. This is notable particularly in view of Kao’s extensive experience with producing caged compounds. As indicated in Column 2, lines 25-27, “Our laboratory has been designing, synthesizing caged molecules, as well as developing their applications in biological systems for over ten years.”

In Column 13, Kao discusses the possibility of caging the steroid mifepristone, an idea that Kao rejects. Kao notes “Our somewhat limited experience with bioactive steroids, however, is that they are prone to side reactions, and chemical manipulations often require extensive use of protective groups to block such unwanted reactions. As a starting point for testing the concept of a photochemical gene switch, steroid-based inducers may prove intractable.” (See Column 13, lines 22-28.)

Similarly, in Column 15, Kao rejects the idea of using the steroids ponasterone A and muristerone A to prepare caged compounds. Kao notes at Column 15, lines 11-13 “That these ecdysone analogues are steroids presents the same chemical obstacle to caging as did mifepristone.”

Accordingly, the skilled artisan would not be motivated by the teachings of Kao to try to produce a caged steroid compound.

In contrast, in the present invention, the inventors developed a chemical strategy for successfully caging steroids as exemplified, e.g., on pages 23-24 and 28 of the present application.

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Accordingly, applicants maintain that Kao does not anticipate or render obvious the invention set forth in the pending claims, and reconsideration and withdrawal of these rejections are respectfully requested.

CONCLUSIONS

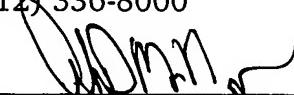
In view of the preceding amendments and remarks, applicants respectfully request that the Examiner reconsider and withdraw the rejections set forth in the March 26, 2010 Office Action, and earnestly solicit allowance of the pending claims. If there is any minor matter preventing the allowance of the subject application, the Examiner is requested to telephone the undersigned attorney.

A check for \$405.00 is enclosed for the fee for submitting a Request for Continued Examination for a small entity. No other fee is deemed necessary in connection with the filing of this reply. However, if another fee is required with this reply or to maintain the pendency of the subject application, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 01-1785.

Respectfully submitted,

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicants
90 Park Avenue
New York, New York 10016
(212) 336-8000

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New York, New York

By 
Alan D. Miller, Reg. No. 42,889